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Podosporium bacilliforme sp. nov. and a first record of *Phaeoblastophora peckii* from southern China

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Abstract—*Podosporium bacilliforme* is described and illustrated from specimens collected on dead branches in Guangxi Province. The fungus is characterized by black synnematal conidiomata and monotretic clavate conidiogenous cells producing solitary elongate-bacilliform phragmoconidia. *Phaeoblastophora peckii* is recorded for the first time in China.

Key words—conidial fungi, taxonomy

Introduction

Decaying wood in the tropical and subtropical forests of southern China supports a high level of fungal diversity, and several wood-inhabiting macrofungi and microfungi have been recently discovered there (Gao et al. 2015; Ma et al. 2011, 2014, 2015, 2016; Ren et al. 2012; Xia et al. 2014a, b, c; Zhang et al. 2008, 2011). During our ongoing surveys of saprobic fungi associated with woody debris in Guangxi and Hainan provinces, two interesting hyphomycetes were collected on dead branches. From morphological and developmental characteristics, we determined that one of these is an undescribed synnematous species of *Podosporium*, while the other represents a first record of *Phaeoblastophora peckii* for China.

Material & methods

Samples were processed, examined and photographed following the methods described in Xia et al. (2014b). Adobe Photoshop 7.0 was used to process the photographs into compound images, with backgrounds modified for esthetic reasons. In view of our failure to obtain cultures of this species, no molecular data are presented here. The specimens are deposited in the Herbarium of Department of Plant Pathology, Shandong Agricultural University, Taian, China (HSAUP) and the Mycological Herbarium, Institute of Microbiology, Chinese Academy of Sciences, Beijing, China (HMAS).

Podosporium bacilliforme J.Y. Wang, Yu M. Cai & X.G. Zhang, **sp. nov.** Fig. 1

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Differs from all other *Podosporium* spp. by its larger bacilliform or elongated bacillifom conidia with many more eusepta.

Type: China, Guangxi Province: Tianyang county, Baiyao village, on dead branches of unidentified bamboo, 15 Nov. 2015, J.Y. Wang (**Holotype**, HSAUP H10119; **isotype**, HMAS 245637).

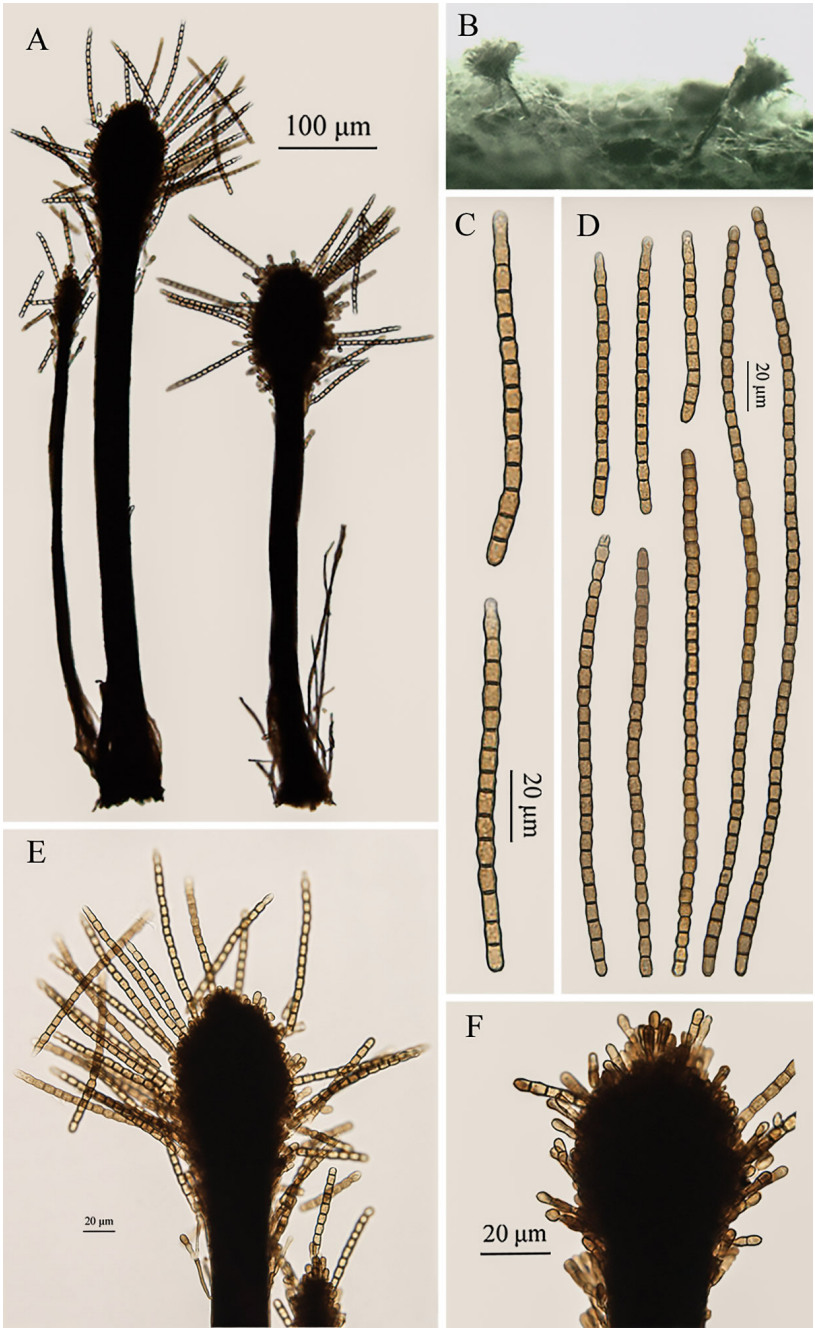
Etymology: From the Latin *bacilliforme*, referring to the conidial shape.

Colonies on the natural substratum effuse, brown. Mycelium mostly immersed, composed of septate, pale brown, flexuous branched hyphae. Synnemata erect, cylindrical, black, solitary or in groups of 2–3, scattered, 470–720 μm long, 14–45 μm wide, up to 70 μm wide at the apical swollen region, expanded at the base. Conidiophores erect, arranged in synnemata, brown, smooth, septate, sometimes branched at the apex. Conidiogenous cells monotretic, clavate or cylindrical, integrated and discrete, terminal, determinate, pale brown, 5–8 × 3.5–4.9 μm. Conidia solitary, dry, smooth, bacilliform or elongate-bacilliform, base truncate, apex rounded, brown to dark brown, 77–310 × 4.5–6.0 μm, 9–43-euseptate, slightly constricted at the septa.

Comments—*Podosporium* was erected by Schweinitz (1832) and typified by *P. rigidum* Schwein. The genus is characterized by subulate or cylindrical, darkly pigmented synnemata with monotretic, percurrent conidiogenous cells scattered along their length (Ellis 1971). More than 60 *Podosporium* species have been described (Index Fungorum 2016).

Podosporium bacilliforme bears some resemblance to *P. elongatum* J.L. Chen & Tzean, *P. etheldoidgeae* Crous et al., and *P. nilgirense* (Subram.) M.B. Ellis in conidial shape. However, the conidia of *P. elongatum* (62–188 × 6–10 μm, 8–21-septate; Chen & Tzean 1993), *P. etheldoidgeae* (32–85 × 6–9 μm, 4–12-septate; Crous et al. 1995) and *P. nilgirense* (32–50 × 7–9 μm, 4–6-septate;

Fig. 1. *Podosporium bacilliforme* (holotype, HSAUP H10119): A, B. Synnematous conidiomata, conidiogenous cells, and conidia. C, D. Conidia. E. Conidiogenous cells with conidia. F. Conidiogenous cells.


A
100 µm
B
C
20 µm
D
20 µm
E
20 µm
F
20 µm

Ellis 1976) are much smaller and have many fewer septa than those in *P. bacilliforme*. Moreover, the terminal conidiogenous cells in *P. bacilliforme* clearly separate it from *P. etheldoidgeae*, which is not acropleurogenous.

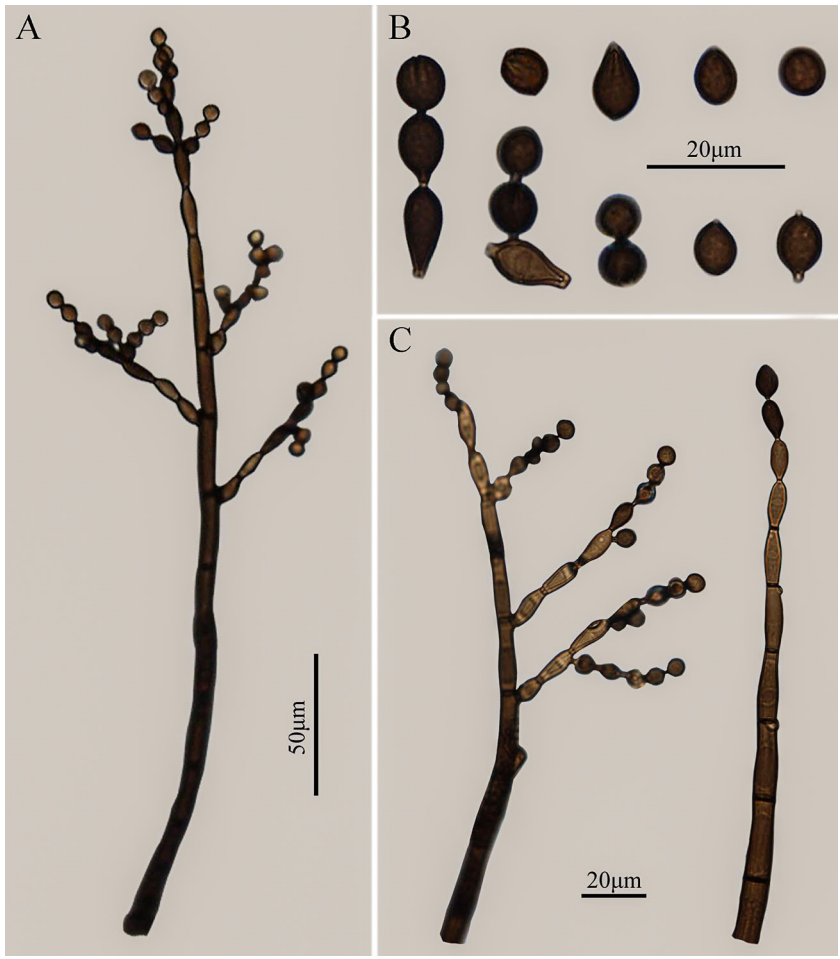


Fig. 2. *Phaeoblastophora peckii* (HSAUP H7519): A. Conidiophores, conidiogenous cells, and conidia. B. Conidia. C. Conidiogenous cells and conidia.

Phaeoblastophora peckii (Sacc. & P. Syd.) Partr. & Morgan-Jones, Mycotaxon 83: 342 (2002) Fig. 2

Colonies effuse, dark brown to black. Mycelium partly superficial, immersed, composed of branched, septate, brown to dark brown, smooth,

3–7 μm wide hyphae. Conidiophores single, distinct, arising as lateral branches, ascending, erect, straight or slightly flexuous, unbranched, cylindrical, inflated toward the extreme apex, brown to dark brown, slightly darker in the distal part, smooth, ≤280 μm long, 4.5–8 μm wide. Conidiogenous cells monoblastic or mostly polyblastic, integrated, terminal or intercalary, cylindrical, broadly clavate to capitate. Conidia acropleurogenous, simple or branched acropetal chains, dry, unicellular, smooth, sub-globose to ellipsoidal, dark brown, generally paler when young, usually narrowly truncate at one or both ends, unthickened at the ends, sub-globose 5–7 μm diam, ellipsoidal, 7–13 × 5.5–7 μm.

Specimen examined: **CHINA, Hainan Province:** Diaoluoshan, on dead branches of unidentified tree, 10 May 2014, X.Y. Li (HSAUP H7519).

Comments—*Phaeoblastophora peckii* was originally described from America. Our specimen fits well with the description of the type material (Partridge & Morgan-Jones 2002), although the conidiophores of the Chinese specimen are slightly longer (280 μm vs 200 μm). Therefore, we believe they are the same species.

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